

Bay State Gas Company  
D.T.E. 05-69

DTE 1-1 Refer to Bay State's petition filed on October 6, 2005 at 2. Please:

- (a) Provide complete and detailed documentation of the cost-effectiveness for each weatherization measure offered as part of Bay State's proposed rebate program.
- (b) Identify which weatherization measures offered as part of Bay State's proposed rebate program were screened for cost-effectiveness in connection with Bay State Gas Company, D.T.E. 04-39, and explain the screening process.
- (c) Identify the weatherization measures offered as part of Bay State's proposed rebate program that are offered through Bay State's "DTE and DOER-approved RCS program." Explain the RCS program and the connection, if any, with cost-effectiveness.

RESPONSE 1-1(a) (Witness Responsible: Derek Buchler)

Introductory Comments

The measures and materials offered in the Company's proposed Special 2005/2006 Heating Season Weatherization Rebate Program ("Program") are weatherstripping, caulking, foam insulation spray, door sweeps and kits, faucet aerators, low-flow showerheads, poly wrap, pipe insulation, rigid board insulation, garage door seals. All of these measures are currently offered in a variety of other Bay State Gas energy efficiency programs. In that sense, the materials and measures are neither new nor unique and are already available to customers. Given the onset of the 2005/2006 heating season and anticipated high gas commodity costs, the proposal for the Program intends to allow customers to utilize those measures and materials under a single streamlined new initiative, without the need to wait to participate in the more comprehensive Residential Conservation Service ("RCS") Program or pre-approved energy efficiency programs offered pursuant to the D.T.E. 04-39 Settlement.

Accordingly, and as noted in the Company's October 6 filing, the measures offered in the proposal draw on measures currently offered and approved in either the Company's RCS program, annually approved by both the DOER and DTE<sup>1</sup>, or in the Company's most recently approved five year energy efficiency plan approved in DTE 04-39.

Overarchingly, as noted in page 3 of the Company's October 6 filing, the Company expects to achieve at least 250,000 therms of savings per year from the Program for a budget of \$700,000. This equates to a one-time cost per annual therm of savings of \$2.80. All Program measures, except for polywrap, are expected to have measure lives of at

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<sup>1</sup> Bay State's CY 2005 RCS program was approved in docket D.T.E. 04-96 (2004).

least seven years. For simplicity and illustrative purposes only, utilizing anticipated commodity costs of approximately \$1.72 per therm projected for this winter, the program would pay for itself well before the end of year two, without factoring in any non-resource benefits, discounting, etc., which only make the Program more cost-effective. Also, as described in response to IR-1-2, the estimated savings of 250,000 therms per year are very conservative. As further detailed below, and based on the foregoing, the Program is securely cost-effective.

### RCS Measures

Specifically, the following measures/materials are offered as Instant Savings Measures, (previously known as Demonstration Materials) under the Company's RCS program overseen by the DOER: weatherstripping, door sweeps and kits, faucet aerators, low-flow showerheads, and pipe insulation. (Additional quantities of these measures may also be offered/installed under the Company's pre-approved D.T.E. 04-39 five-year energy efficiency plan.) These materials are typically installed in a home during an initial home energy assessment in order to demonstrate to customers how they may install additional materials on their own. As detailed below, RCS is a statutorily mandated program and cost-effectiveness is not a prerequisite to the program. Nonetheless, pursuant to the DOER's request, in December 2004, the Company did prepare a cost-effectiveness analysis of the RCS program (at the program level). This analysis and the related assumptions is attached as Attachment 1-1-(a)-(1) and indicates a BCR of 2.13.

### D.T.E. 04-39 Settlement Approved Measures

#### (i) Rigid Board Measure.

The second type of measure offered under the Company's proposed special rebate Program is drawn from the Company's pre-approved five-year energy efficiency plan and offered through its custom weatherization program and/or low-income program, as approved in the D.T.E. 04-39 Settlement. These specific measures are rigid board insulation and air sealing. The rigid board measure was included in the cost effectiveness screening of the residential Custom Weatherization program in DTE 04-39 (and DTE 01-27). Attachment 1-1-(a)-2 contains the more detailed cost-effectiveness screening materials, including methodologies, included in the Company's D.T.E. 04-39 pre-approval filing dated March 30, 2004, which was incorporated into the D.T.E. 04-39 Settlement. Screening for this program was done at the program (not measure) level in accordance with the Total Resource Cost Methodology and the Department's February 2000 D.T.E. 98-100 cost-effectiveness guidelines.

#### (ii) Further Information on Air Sealing Measures.

In practice, air sealing is not one stand alone measure, but rather a group of materials and activities used in offering the measure for home sealing called Air Sealing which was approved as a component of the Company's low-income program in D.T.E. 04-39 (see Exhibit One-A Attachment A of the D.T.E. 04-39 Settlement, including with the

Company's October 6, 2005 filings in this matter). Materials often used in air sealing activities include weatherstripping, caulking, foam spray insulation, poly wrap and garage door seals which are proposed to be offered in the Program. The Company's low-income program was found to be cost-effective in screening included with the Company's March 30, 2004 pre-approval filing, incorporated into the D.T.E. 04-39 Settlement. See Attachment 1-1-(a)-2. Air sealing is also offered by a number of gas LDCs for non-low income customers and was approved as part of Berkshire's cost-effective residential energy efficiency program in The Berkshire Gas Company D.T.E. 04-38 (2004). (Under the D.T.E. 04-39 Settlement, the Company is expressly allowed to "piggyback" on these savings used by Berkshire (and other LDCs).) More recently, the federal ENERGY STAR program announced, "*Sealing your home's envelope is one of the most cost-effective ways to lower your home's energy bills and improve your comfort.*" (see Attachment 1-1-(a)-3, except from [www.energystar.gov/homesealing](http://www.energystar.gov/homesealing) for additional details).

In sum, the Company has not screened all individual measures and/or materials offered in the Proposal for cost effectiveness at the measure level. Instead, it only proposes offering measures either already offered in its approved RCS program or offered as components of programs found to be cost-effective in the D.T.E. 04-39 Settlement. Going further, as indicated above, even using a simplified analysis of the Program based on the high forecast commodity costs for this winter and the low per therm savings cost of the Program, the Program is securely cost-effective.

Response 1-1(b):

As noted above, faucet aerators, low-flow showerheads, pipe insulation, rigid board insulation and air sealing (weatherstripping, caulking, foam spray insulation, poly wrap and garage door seals) are offered to customers in the Company's pre-approved five year energy efficiency plan approved in DTE 04-39. See response to 1-1(a) for further information on this process.

Response 1-1(c):

See response to 1-1(a) for list of the measures offered pursuant to the Company's RCS Program. The RCS Program is a statutorily mandated program originally arising out of the energy crisis in the late 1970's. The RCS Program is specifically mandated by G.L. c. 164 App. Sections 2.1 et seq. The Department's regulations governing the RCS Program are set forth at 220 CMR Section 7.00 et seq. and the DOER's regulations with respect to the RCS Program are set forth at 225 CMR 4.00 et seq. Traditionally, the DOER approves program goals and measures and the Department reviews and approves RCS program budget and surcharges. The Company's 2005 RCS Program was approved in Docket D.T.E. 04-96 and as part of this program, each of the above referenced measures is offered. Cost-effectiveness is not required under the statute or these regulations. Nonetheless, as noted above, in December 2004, the Company conducted an informal cost-effectiveness review of the RCS Program and it indicated, based on the assumptions set forth therein, a BCR of 2.13. Further answering, the Company notes that it utilizes the

RCS Program as one of its points of intake for its D.T.E. 04-39 energy efficiency conservation programs. As noted above, each of these programs has been screened for cost-effectiveness in accordance with the D.T.E. 98-100 Total Resource Cost Cost-Effectiveness Screening Guidelines.

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Bay State Gas Company  
D.T.E. 05-69

DTE 1-2      Refer to Bay State's petition filed on October 6, 2005 at 3. Please:

- (a)      Explain how Bay State concluded that its proposed rebate program would result in ten (10) therms of savings per participating customer.
- (b)      Explain what Bay State means by "stipulated/bundled 10 therms of savings."
- (c)      Explain how Bay State estimated that 25,000 customers would participate in the rebate program.

RESPONSE 1-2(a)    (Witness Responsible: Derek Buchler)

The therm savings were derived by reviewing the individual low-cost measures normally installed in homes during an energy audit and savings estimates associated with such measure. For example:

- 6 feet of pipe insulation are assumed to save 3.89 therms and cost a only a dollar or two. A typical home owner might install 24 feet or more yielding savings of 15.56 therms at less than \$10.
- 1 low flow shower head is assumed to save over 16 therms and costs around \$6.00
- 1 faucet aerator is assumed to save 5 therms and costs between \$1 - \$3 depending on the model.
- Air sealing activities are assumed to save tens of therms per year and are easily achieved with a couple of tubes of caulking and/or seals.
- Likewise, just 10 square feet of wall insulation (where none exists) are assumed to save around 2 therms per year.
- Other comparable measures will achieve results on similar orders of magnitude. All therm savings figures in bullets 1, 2, 3 and 5 are also consistent with the measure savings used by the Company in its semi-annual CGA filings for the purpose of recovering Lost Base Revenues.

Not knowing which combination or quantity of measures any particular customer might elect to install, Bay State chose to use a **very** conservative, bundled savings estimate of 10 therms for each participating customer. Based on the foregoing, the Company submits that in all likelihood, \$25 of weatherization materials will exceed, sometimes very substantially, that level of savings. Based on its in-house engineering expertise, the Company did not have independent consultant report prepared to support the ten therms savings estimate. For purposes of expediting matters and avoiding expense, the Company wanted to keep the program and its presentation thereof simple, while recognizing that savings are indeed being realized with the installation of the proposed

measures/materials. This approach is consistent with Department precedent. More specifically, this stipulation is consistent with the Department's findings in D.P.U. 96-50, that gas utilities should employ evaluation strategies that facilitate review, and with the Department's holdings in Boston Gas Company, D.P.U. 94-14 (1995) that exactly "quantifying actual energy savings associated with DSM programs is not practicable nor possible. Accordingly, as part of future DSM monitoring and evaluation efforts, [natural gas local distribution companies] will be expected to provide clear and reasonable assumptions and expectations concerning their M&E and proposal level of M&E expenditures which strikes some balance between accuracy and cost." Id. Accordingly, by utilizing the proposed ten terms stipulation methodology, the Company appropriately balances accuracy and cost. Further, such methodology would avoid the need for an after-the-fact impact evaluation that would substantially increase program costs, but not yield material benefits.

#### RESPONSE 1-2(b)

Please see the Company's response to 1-2(a). Further, the Company proposes to utilize the stipulated savings for regulatory reports, forecasting demand, LBR calculations and other related information that factors in, or is dependency on, energy efficiency savings information. As noted above, the Company submits that the ten terms estimate is very conservative.

#### RESPONSE 1-2(c)

The Company used a best-faith estimate to arrive at the figure of 25,000 program participants. This figure represents approximately 10% of residential customers in the Company's service territory. The Company recognizes that a 10% participation rate in a program year would be considered a success and in fact participation may vary based upon the public's response to the program. Given the anticipated high gas commodity costs for the 2005/2006 heating season, the Company believes that a 10% participation rate for this simple, streamlined program is achievable – and may be exceeded. For reference, in program year 2004/2005, approximately 4075 (approximately 1.65%) of the Company's residential customers participated in one of its energy efficiency programs.

Bay State Gas Company  
D.T.E. 05-69

DTE 1-3 Refer to Bay State's petition filed on October 6, 2005 at 4. Please explain how Bay State's proposal to fund its rebate program by reallocating funds from its budget for residential energy efficiency programs approved by the Department on September 13, 2004 in Bay State Gas Company, D.T.E. 04-39 (2004) meets the requirements of Section II.F of that Settlement. What percentage of the residential energy efficiency programs does the rebate program constitute?

Response 1-3 (Witness Responsible: Derek Buchler)

As an initial matter, as noted in the introductory paragraph (page 1) of its October 6, 2005 filing seeking approval of the Special 2005/2006 Heating System Weatherization Rebate Program ("Program"), the Company is seeking approval pursuant to **Section II.G** of the D.T.E. 04-39 Settlement Agreement. Section II.G of the D.T.E. 04-39 Settlement provides in particular:

During the Pre-Approval Period, the Company may expend, and seek recovery of, funds for its energy efficiency programs, including market transformation/market-driven energy efficiency initiatives, in addition to or in excess of the pre-approval amounts set forth in Paragraphs II.A., II.B. and II.C. above, if such additional expenditures are cost-effective or if, in its discretion, the Company determines that such additional expenditures are in the best interests of the Company's energy efficiency programs and the Company's customers based upon then current circumstances; provided, however, that, while the other Settling Parties shall consider in good faith any such additional expenditures, the other Settling Parties shall not be bound to support the recovery of such additional expenditures unless in their respective discretions, the Company has shown the cost-effectiveness or benefits of such additional expenditures.

The Company is not seeking to utilize the provisions of Section II.F of the Settlement which allow the Company to make budgetary reallocations without prior Department approval provided that the reallocation is 25% or less than overall residential energy efficiency budget. By way of example, the overall residential budget (low-income and non-income programs combined) for the 2005/2006 Program Year for Bay State is \$2,568,812. Accordingly, subject to certain restrictions, Bay State would have the ability to reallocate funds of \$642,203 without the need for prior Department approval under Section II.F of the D.T.E. 04-39 Settlement. Because the Company expects that expenditures for the Program will be approximately \$700,000 (and could be less or more depending on actual in-the-field uptake), which is more than 25% of the residential program budget, the Company's request then rolls over to Section II.G

of the D.T.E. 04-39 Settlement and the procedures set forth therein. For the reasons set forth in its October 6, 2005 filing, the Company believes that its proposal satisfies the requirements of Section II.G which expressly provide that the Company may "expend and seek recovery of funds. . . in excess of the pre-approved amounts. . . if such additional expenditures are cost-effective or if in its discretion the Company determines that such additional expenditures are in the best interests of the Company's energy efficiency programs and Company's customers based upon then current circumstances." As noted above, the Company believes that the Program is not only cost-effective, but also in the best interests of its customers especially in light of the unique current circumstances in which very high commodity costs are forecast for the 2005/2006 heating season.

Relatedly, as stated in its October 6, 2005 filing, the Company notes that in the 2004/2005 Program Year, it spent approximately \$1.8 million out of an approximately \$2.5 million budget with an under expenditure of approximately \$669,000. The D.T.E. 04-39 Settlement provides for a five-year pre-approval period, and it is anticipated that actual expenditures in any given year will vary in some amount from the actual budgeted amounts based on actual in-the-field experience. As implied by the Department's question, another useful way of examining the Company's request for approval is to view it as a re-allocation of unexpended funds from the 2004/2005 program year. If the Department were to approve the Program and the Company otherwise achieved its budgetary targets for the 2005/2006 Program Year, on a two-year basis, the Company would be almost exactly at the two-year budget levels approved in the D.T.E. 04-39 Settlement. (That is, the \$669,000 2004/2005 under expenditure would be counter-balanced by the additional \$700,000 2005/2006 expenditure for the Program.) This longer term consistency with the D.T.E. 04-39 Settlement budget is another factor supporting approval of the Program. The Company emphasizes that, except for certain low income expenditures, for gas LDCs, the Department has historically **not** required that unexpended program funds from one program year be expended in the subsequent program year, nor has the Department required that if a company over-expends in a given year, the subsequent year's budget be adjusted downward. Rather, the Department has reviewed expenditure variances in annual CC decimal reviews.

Further, answering the Department's question, the Company notes that utilizing the approved 2005/2006 budget of \$2,568,812, the \$700,000 Program budget would constitute approximately 27% of the 2005/2006 budget. Looking at matters from a two year budgetary perspective (for illustrative purposes only) and re-allocating the \$669,000 under-expenditure from the previous program year (2004/2005) into the current program year budget, a 2005/2006 program year budget of \$3,237,812 would be indicated and the \$700,000 for the Program would constitute 21% of the two-year budget.

In sum, because the possible expenditures for the Program exceed 25% of the pre-approved 2005/2006 budget, the Company is seeking approval of the Program



pursuant to Section II.G as opposed to Section II.F of the D.T.E. 04-39 Settlement. The Company, as noted above and in its October 6, 2005 filing, is very close to the threshold established in Section II.F, which would allow it to proceed without Department approval, but conservatism indicates that the appropriate path is utilization of Section II.G of the Settlement.

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